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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/183,479 10/30/98 LIBERATORE

M SAR12743

EXAMINER

IM62/0210

WILLIAM J BURKE  
SARNOFF CORPORATION PATENT OPERATIONS  
CN 5300  
PRINCETON NJ 08543-5300

MAYES, M

ART UNIT

PAPER NUMBER

1734

DATE MAILED:

02/10/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**09/183,479**

Applicant(s)  
**Liberatore et al.**

Examiner  
**M. Curtis Mayes**

Group Art Unit  
**1734**



- ☐ Responsive to communication(s) filed on \_\_\_\_\_
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

- ☒ Claim(s) 1-12 is/are pending in the application.
- Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-12 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

(1)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(2)

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by IBM Technical Disclosure Bulletin.

The IBM Technical Disclosure Bulletin discloses a method of screen printing on indented ceramic green sheets comprising: hot stamping indentations of the desired conductor patterns into ceramic green sheets; screen printing metal powder paste into the indentations; stacking and laminating green sheets and co-firing to make a multilayer ceramic module.

### ***Claim Rejections - 35 USC § 103***

(3)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

(4)

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the IBM Technical Disclosure Bulletin.

The IBM Technical Disclosure Bulletin discloses screen printing a paste of metal powder such as silver in an organic vehicle.

Screen printing the green sheets using a silver screen printing paste having of a viscosity of about 30 poise would have been obvious to one of ordinary skill in the art as suitable viscosity for a paste for screen printing conductor patterns in the indentations in the green sheets.

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(5)

Claims 4-8, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the IBM Technical Disclosure Bulletin in view of Vitriol et al.

Vitriol et al. teach that in a multi-layer, co-fired ceramic, electrical circuit patterns on the green sheets include not only metallizations but may further include resistors, capacitors, inductors and other electrical components compatible with the process, the patterns formed on the sheets by screening or any other suitable method (col. 4, lines 57-63).

It would have been obvious to one of ordinary skill in the art to have modified the method of the IBM Technical Disclosure Bulletin for making a multi-layer ceramic module by also screen printing resistors, capacitors, inductors or filters in the indentations in the green sheets as taught by Vitriol et al. as also screened on green sheets for making a multi-layer, co-fired ceramic laminate. Screen printing the green sheets with conductive paste to form inductors or filters, with resistor paste, or with capacitor paste would have been obvious to one of ordinary skill in the art as Vitriol et al. teach that in a multi-layer co-fired ceramic, these electrical components may also be included by screen printing.

Screening resistors using an ink or paste of ruthenium oxide or screening capacitors using an ink or paste of lead magnesium niobate or barium titanate, as claimed in Claims 6-8, would have been obvious to one of ordinary skill in the art as these materials conventionally used for resistors or capacitors.

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(5)

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the IBM Technical Disclosure Bulletin as applied to claim 1 above, and further in view of Prabhu 5,277,724.

Prabhu teaches that multi-layered, co-fired ceramic on a metal base is formed by utilizing a bonding layer of low softening point glass and co-firing to bond the ceramic to the metal base. The bonding layer of glass provides a means of attaching the multi-layered ceramic to the base and minimizes shrinkage of the ceramic during the firing (col. 1, line 55 - col. 2, line 48).

It would have been obvious to one of ordinary skill in the art to have modified the method of the IBM Technical Disclosure Bulletin for making a multilayer ceramic module by co-firing the laminated green sheets on a metal base using a low melting bonding layer of glass as taught by Prabhu for attaching a multi-layered ceramic to a base and minimize shrinkage of the ceramic during firing.

### ***Conclusion***

(6)

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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(7)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis Mayes, whose telephone number is (703) 308-1977. The examiner can normally be reached on Monday-Friday from 7:45 AM-4:15 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino, can be reached on (703) 308-3853.

The Official FAX phone number for this Tech Center 1700 is (703) 305-7718.

The Unofficial Fax phone number is (703) 305-7115.

When filing a FAX in Tech Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with PTO that are not for entry into the file of the application. This will expedite processing of your papers.

The receptionist number for Tech Center 1700 is (703) 308-0661.

  
**CURTIS MAYES**  
**PRIMARY EXAMINER**  
Art Unit 1734  
February 9, 2000